FIG.1

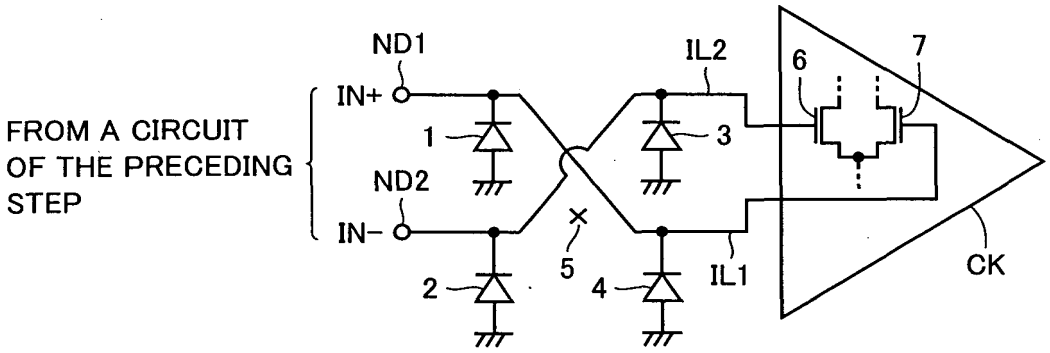

FROM A CIRCUIT OF THE PRECEDING STEP
ND1
IN+
1
ND2
IN−
2
5
IL2
3
4
IL1
6
7
CK

FIG.2

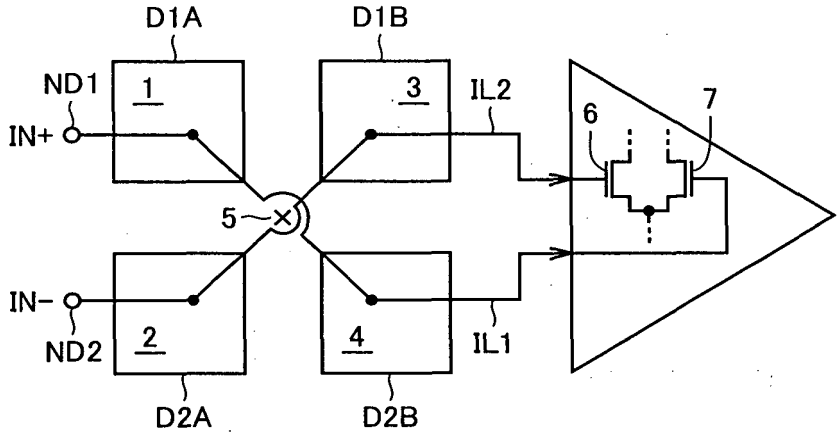

D1A
D1B
ND1
IN+
1
3
IL2
6
7
5
IN−
ND2
2
4
IL1
D2A
D2B

FIG.3

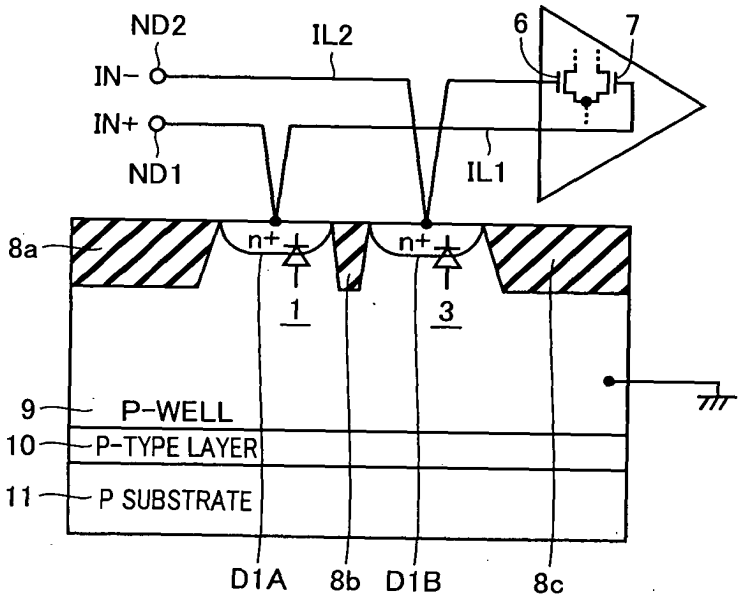

ND2
IL2
6
7
IN−
IN+
ND1
IL1
8a
n+
n+
1
3
9
P-WELL
10
P-TYPE LAYER
11
P SUBSTRATE
D1A
8b
D1B
8c

FIG.4

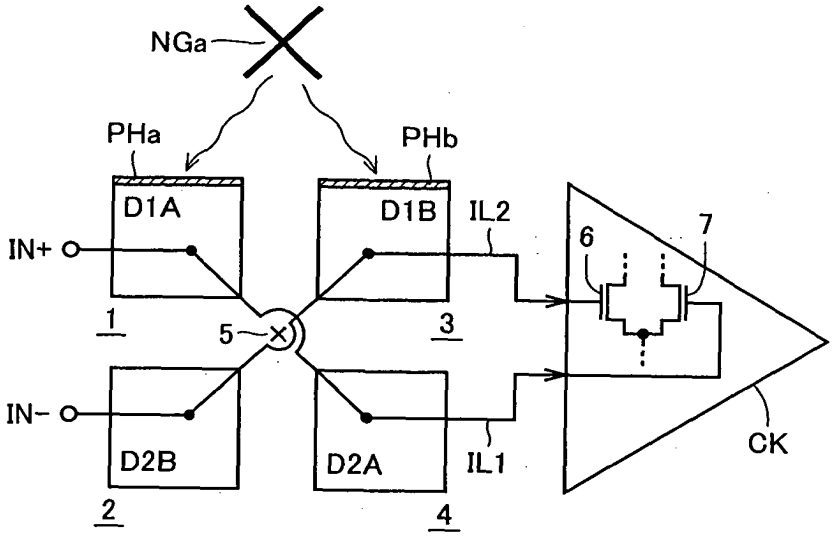

NGa
PHa
PHb
D1A
D1B
IL2
6
7
IN+
1
5
3
IN−
D2B
D2A
IL1
CK
2
4

FIG.5

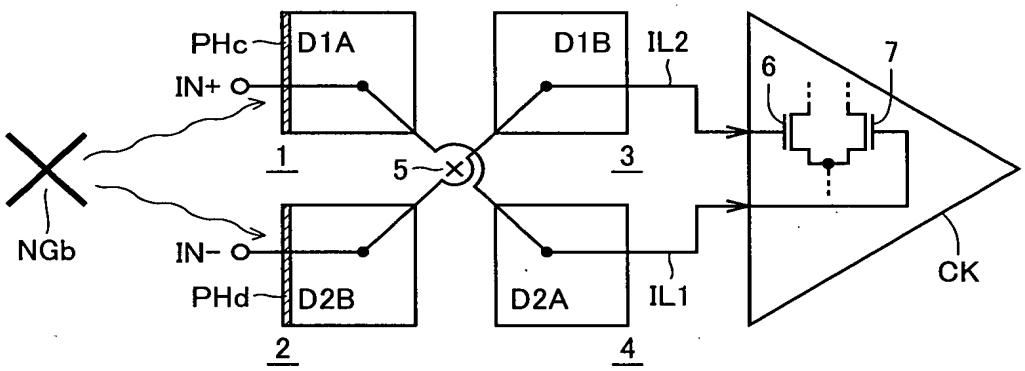

PHc
D1A
D1B
IL2
6
7
IN+
1
5
3
NGb
IN-
PHd
D2B
D2A
IL1
CK
2
4

FIG.6

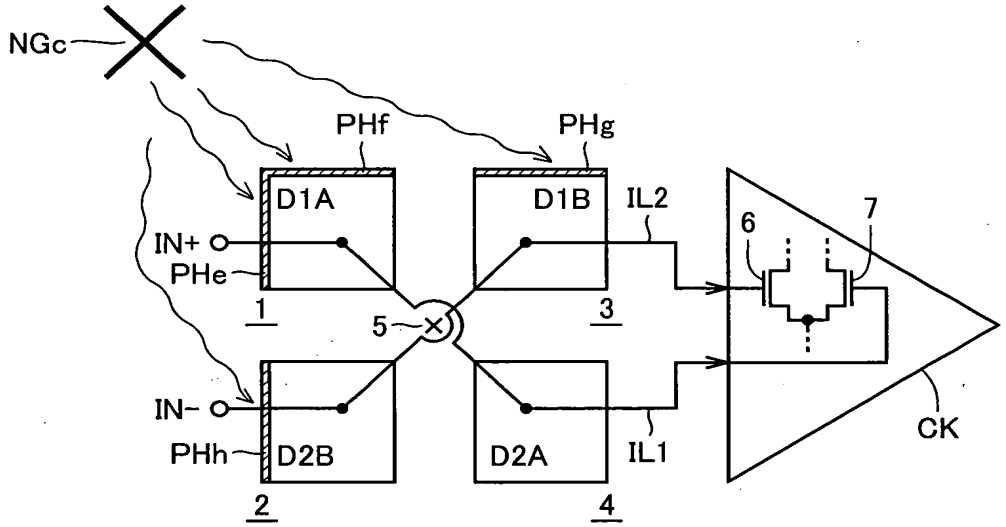

NGc
PHf
PHg
D1A
D1B
IL2
6
7
IN+
PHe
1
5
3
IN-
PHh
D2B
D2A
IL1
CK
2
4

FIG.7

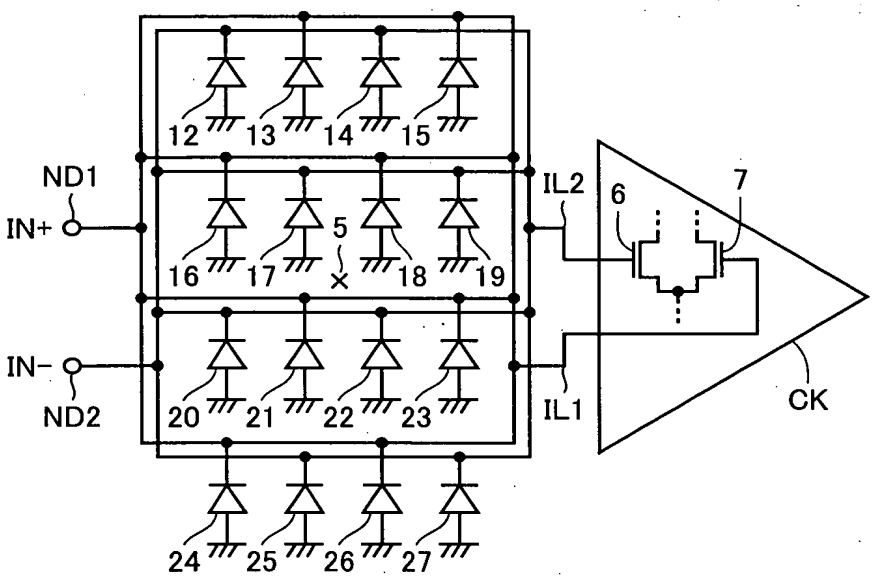

12
13
14
15
ND1
IN+
16
17
5
18
19
IL2
6
7
IN−
ND2
20
21
22
23
IL1
CK
24
25
26
27

FIG.8

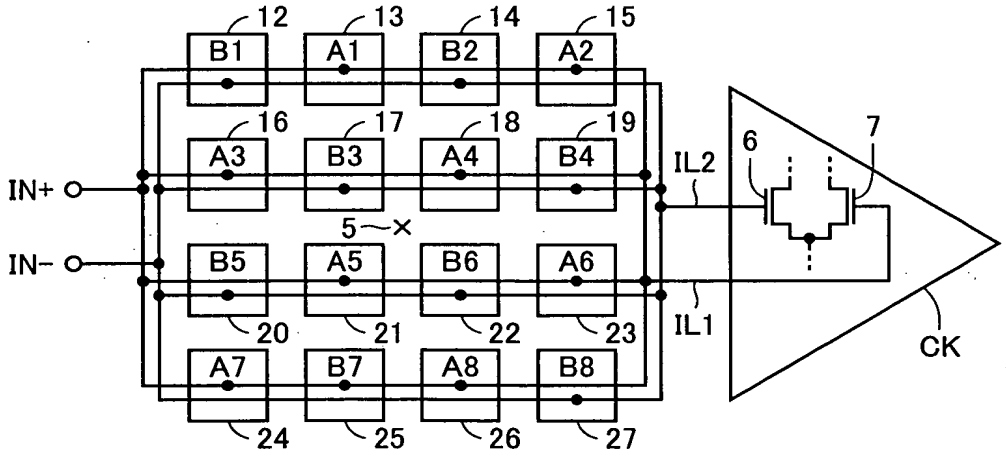

12
13
14
15
B1
A1
B2
A2
16
17
18
19
A3
B3
A4
B4
IL2
6
7
IN+
5
IN−
B5
A5
B6
A6
20
21
22
23
IL1
CK
A7
B7
A8
B8
24
25
26
27

FIG.9

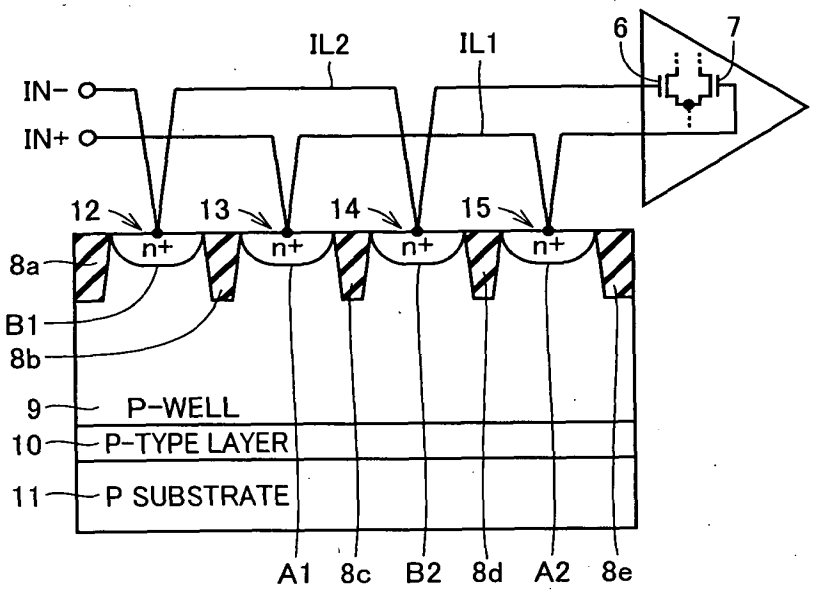

IL2
IL1
6
7
IN−
IN+
12
13
14
15
n+
n+
n+
n+
8a
B1
8b
9
P-WELL
10
P-TYPE LAYER
11
P SUBSTRATE
A1
8c
B2
8d
A2
8e

FIG.10

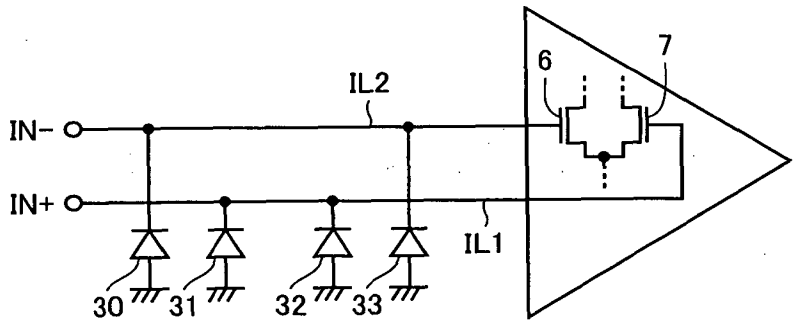

6
7
IL2
IN−
IN+
IL1
30
31
32
33

FIG.11

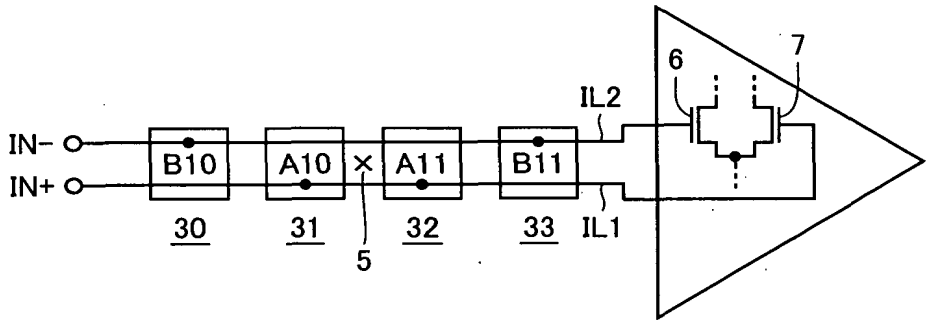

IN−
IN+
B10
A10
A11
B11
30
31
32
33
5
IL1
IL2
6
7

FIG.12

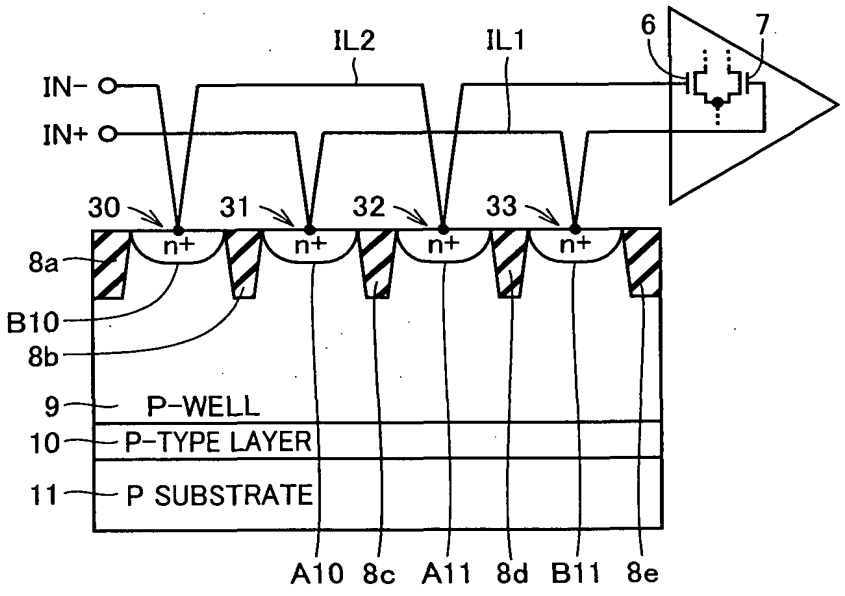

IL2
IL1
6
7
IN−
IN+
30
31
32
33
n+
8a
B10
8b
9
P-WELL
10
P-TYPE LAYER
11
P SUBSTRATE
A10
8c
A11
8d
B11
8e

FIG.13

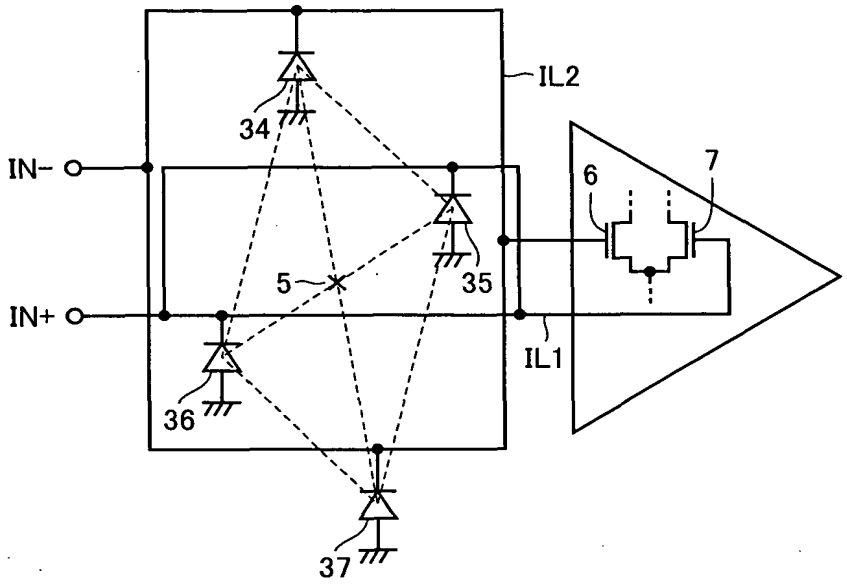

IL2
34
IN-
6
7
5
35
IN+
IL1
36
37

FIG.14

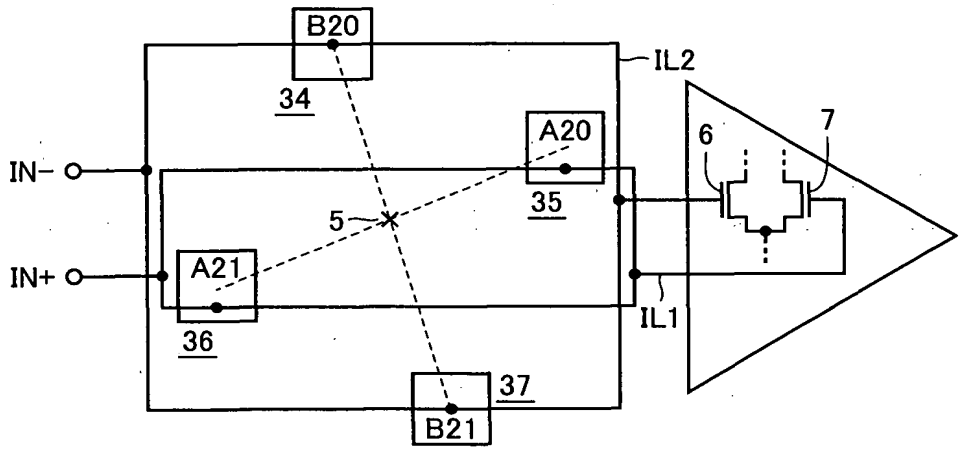

B20
IL2
34
A20
6
7
IN-
35
5
IN+
A21
IL1
36
37
B21

FIG.15

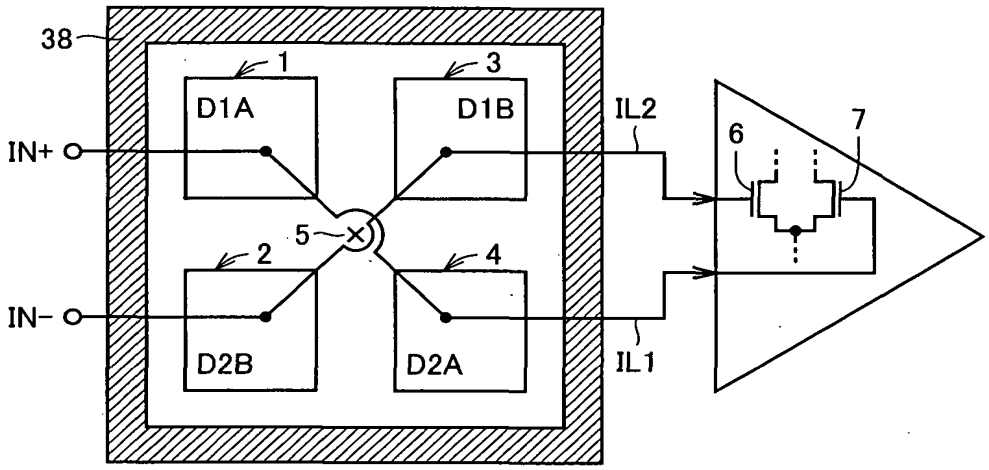

38
1
3
D1A
D1B
IL2
IN+
6
7
5
2
4
IN-
D2B
D2A
IL1

FIG.16

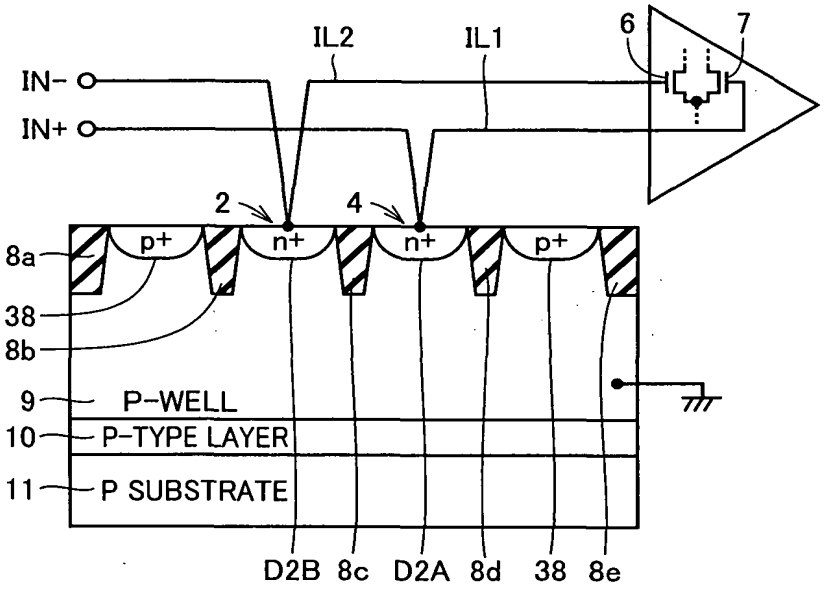

IL2
IL1
6
7
IN-
IN+
2
4
p+
n+
n+
p+
8a
38
8b
9
P-WELL
10
P-TYPE LAYER
11
P SUBSTRATE
D2B
8c
D2A
8d
38
8e

FIG.17

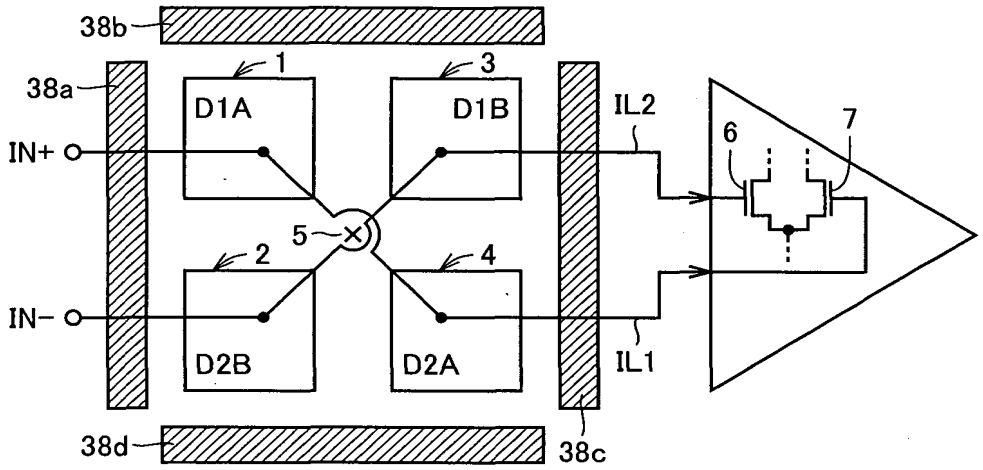

38b
38a
1
3
D1A
D1B
IL2
IN+
6
7
5
2
4
IN−
D2B
D2A
IL1
38d
38c

FIG.18

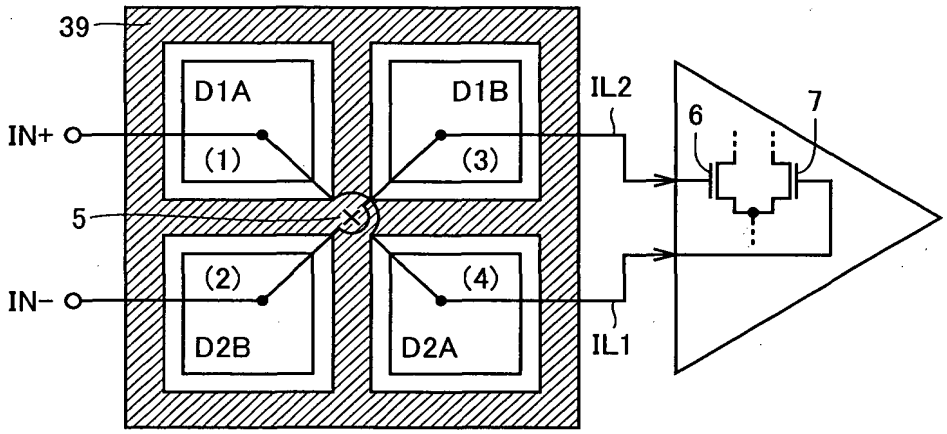

39
D1A
D1B
IL2
IN+
(1)
(3)
6
7
5
(2)
(4)
IN−
D2B
D2A
IL1

FIG.19

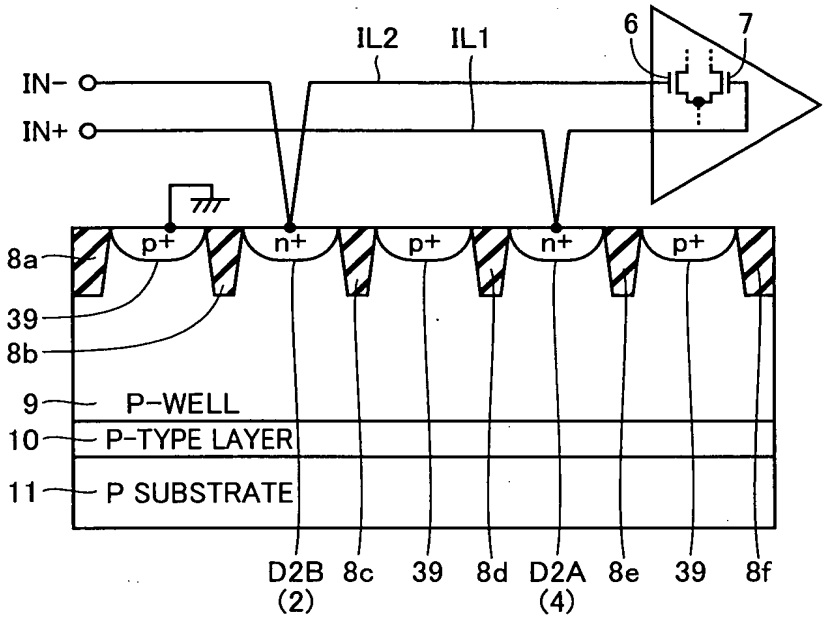

IL2
IL1
6
7
IN-
IN+
p+
n+
p+
n+
p+
8a
39
8b
9
P-WELL
10
P-TYPE LAYER
11
P SUBSTRATE
D2B
(2)
8c
39
8d
D2A
(4)
8e
39
8f

FIG.20

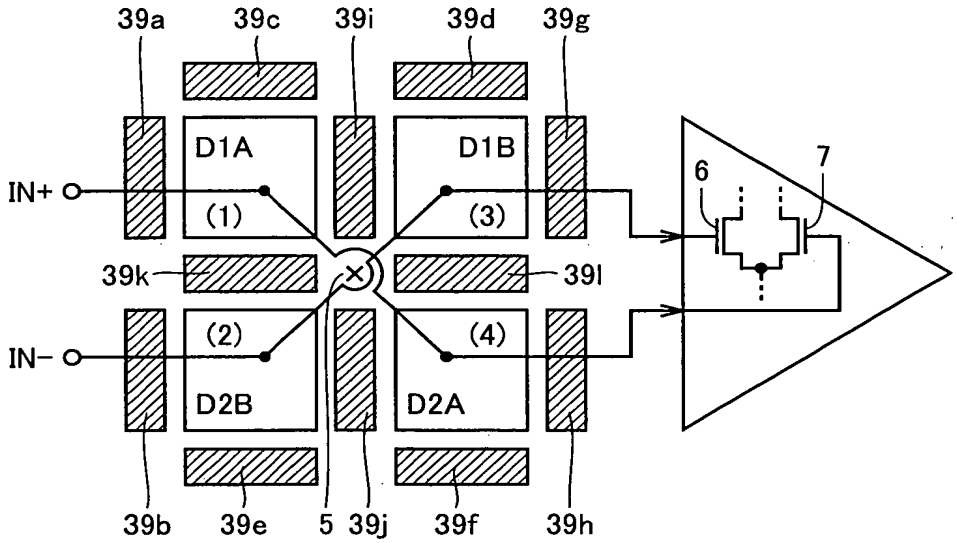

39a
39c
39i
39d
39g
D1A
D1B
IN+
(1)
(3)
6
7
39k
39l
(2)
(4)
IN-
D2B
D2A
39b
39e
5
39j
39f
39h

FIG.21

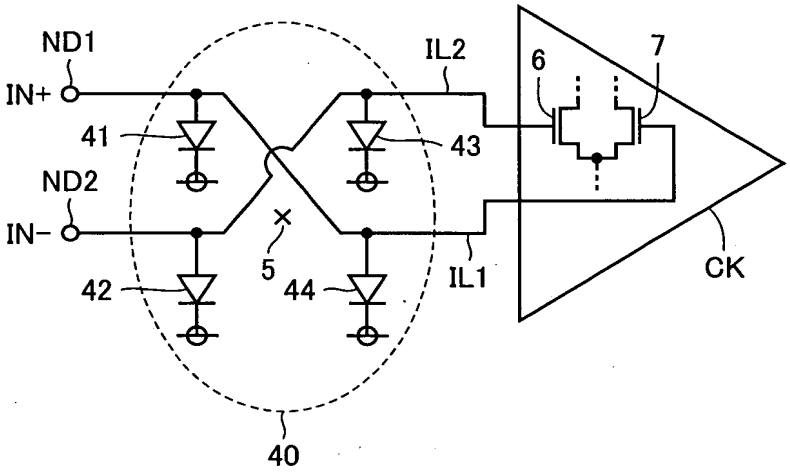

ND1
IN+
41
ND2
IN−
42
5
44
43
IL2
IL1
6
7
CK
40

FIG.22

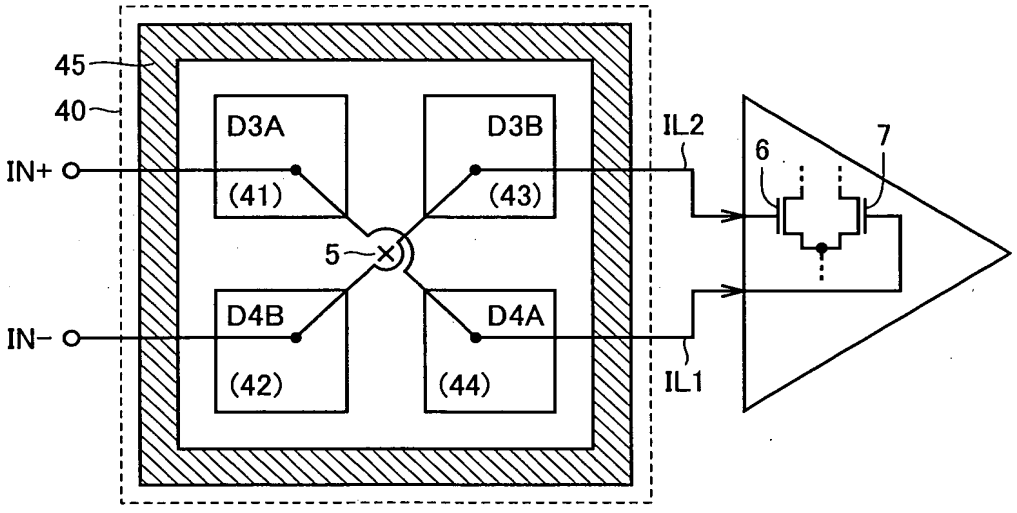
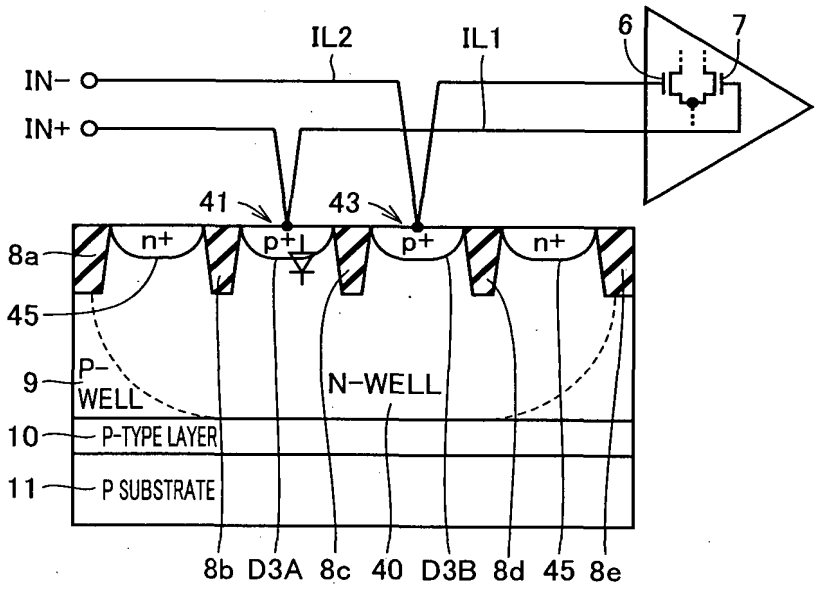

45
40
IN+
IN−
D3A
(41)
D3B
(43)
5
D4B
(42)
D4A
(44)
IL2
IL1
6
7

FIG.23


IL2
IL1
6
7
IN−
IN+
41
43
8a
n+
p+
p+
n+
45
9
P−
WELL
N−WELL
10
P-TYPE LAYER
11
P SUBSTRATE
8b D3A 8c 40 D3B 8d 45 8e

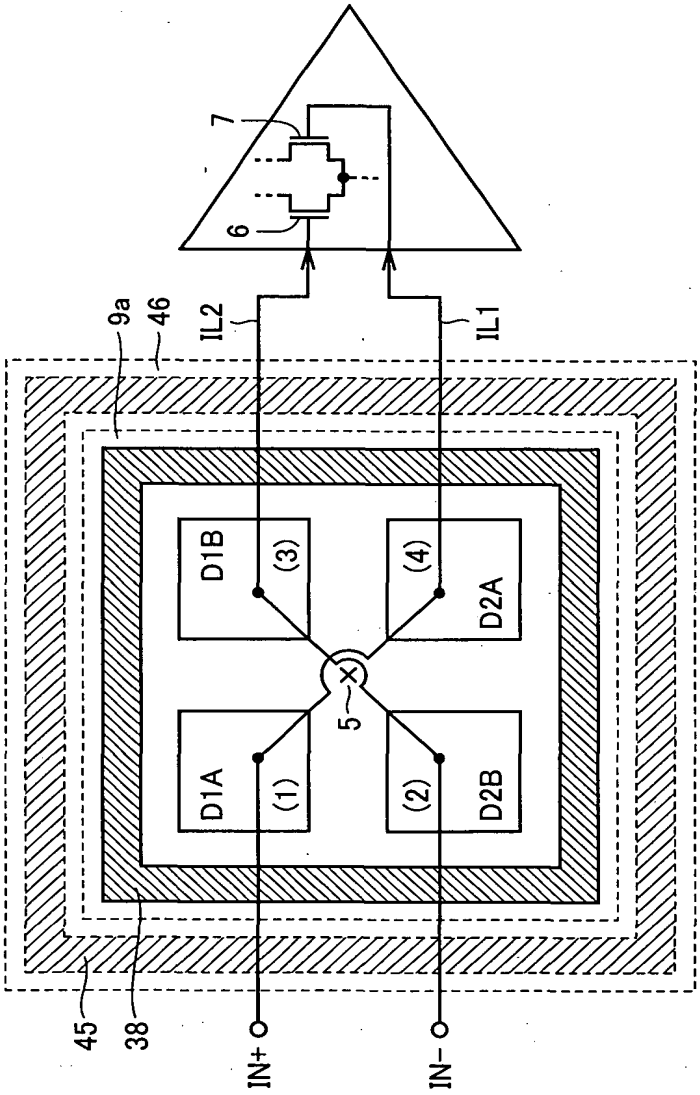
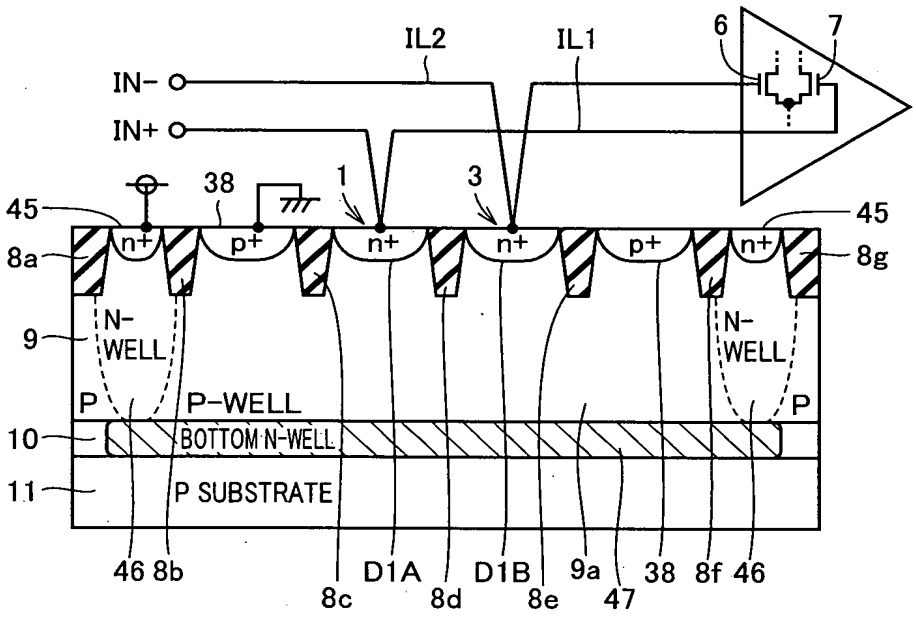


FIG.24

FIG.25


IL2
IL1
6
7
IN-
IN+
38
1
3
45
45
8a
8g
n+
p+
n+
n+
p+
n+
9
N-
WELL
N-
WELL
P
P-WELL
P
10
BOTTOM N-WELL
11
P SUBSTRATE
46 8b
8c
D1A
8d
D1B
8e
9a
47
38
8f 46

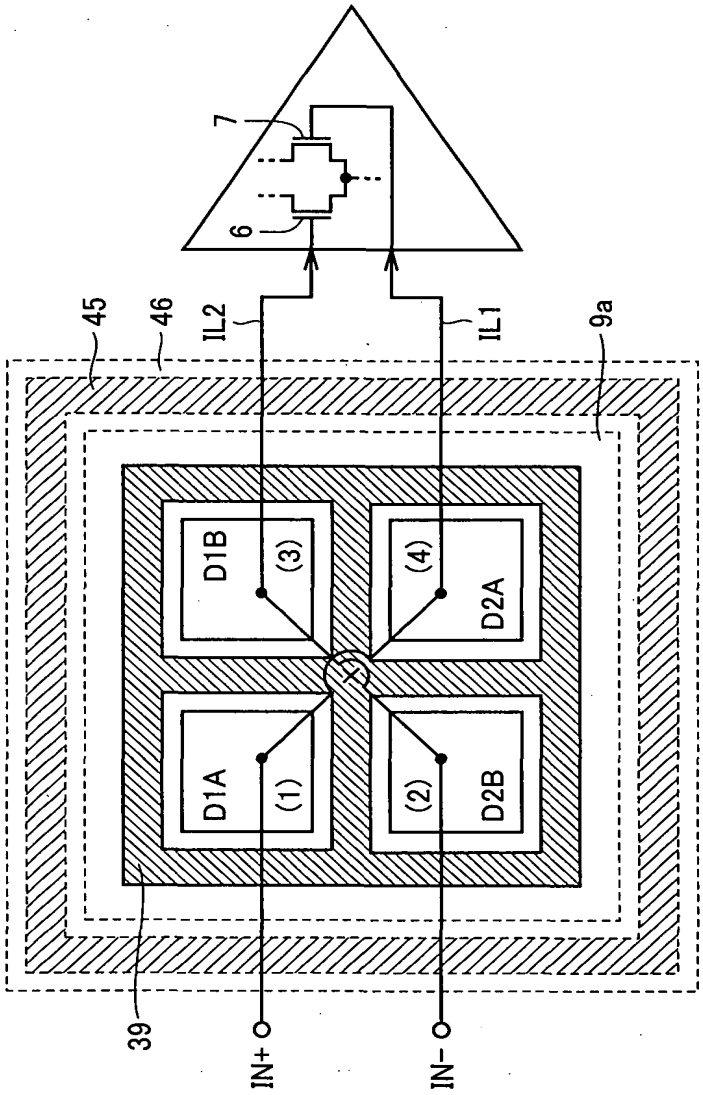


FIG.26

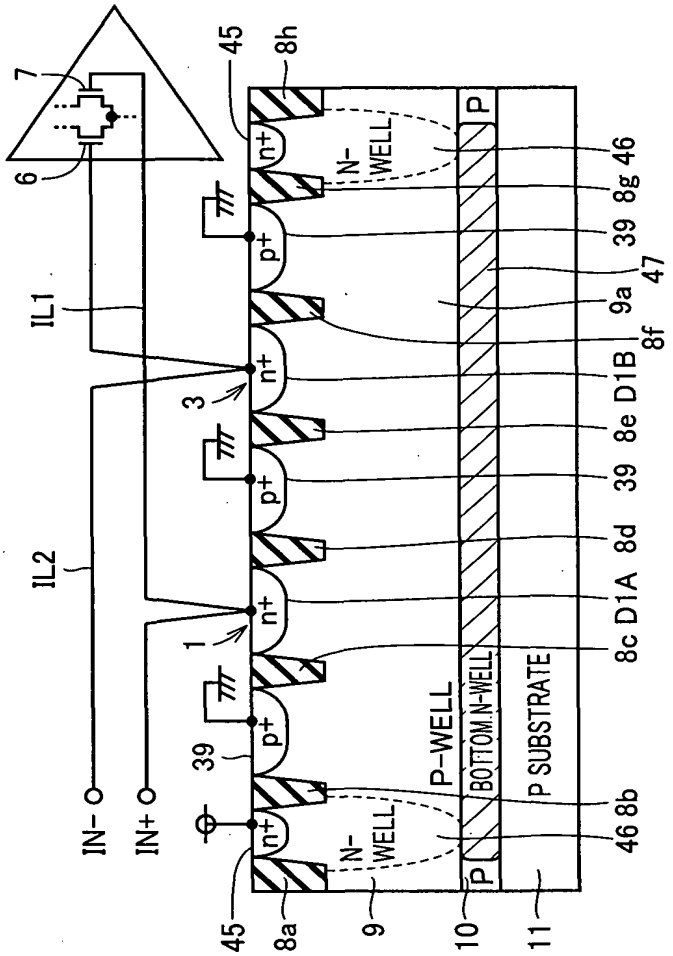

7
6
45
8h
IL1
IL2
3
1
39
IN-
IN+
n+
p+
N-WELL
P-WELL
BOTTOM N-WELL
P SUBSTRATE
P
46
8g
47
9a
8f
D1B
8e
8d
D1A
8c
8b
8a
9
10
11

FIG.27

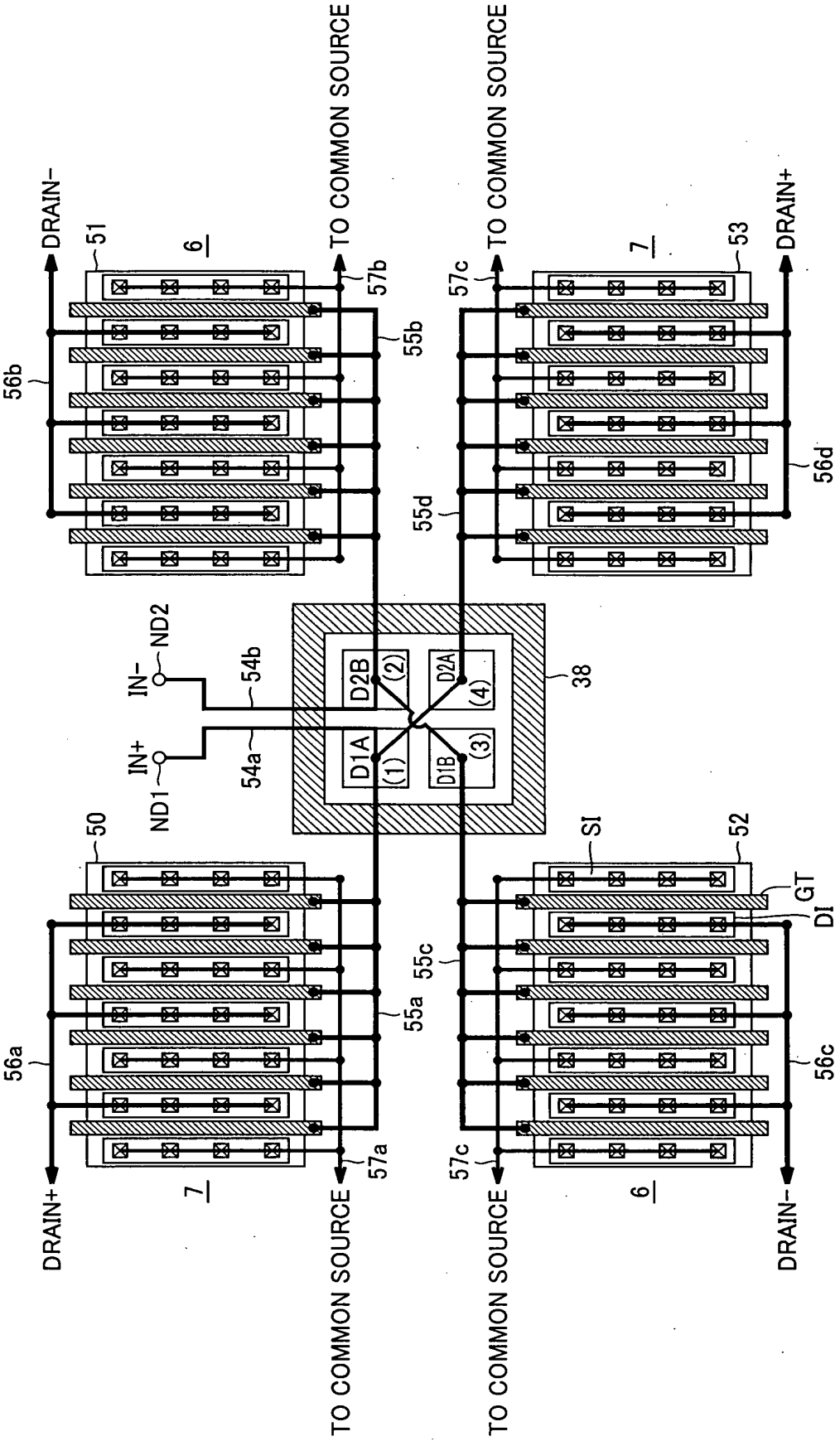
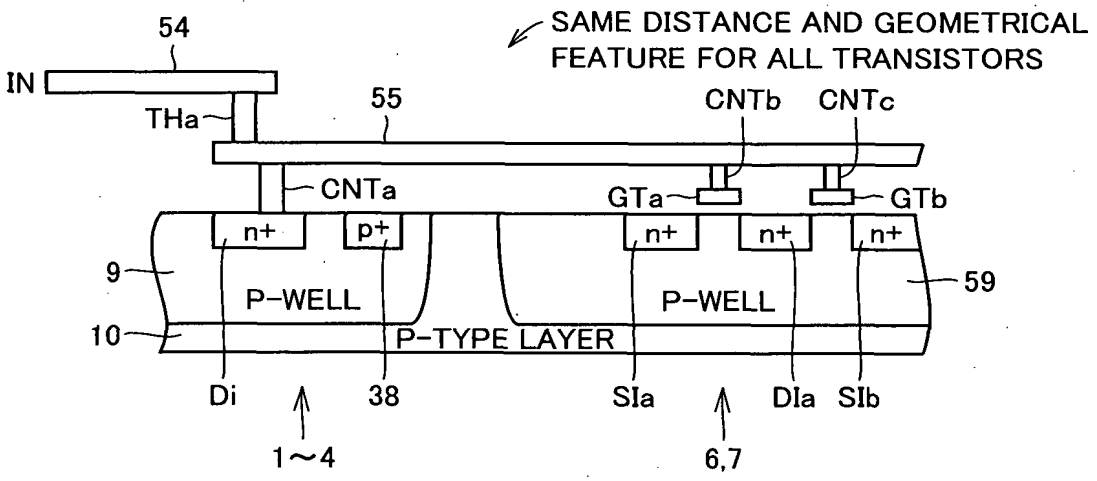

DRAIN−
51
6
TO COMMON SOURCE
57b
55b
56b
57c
TO COMMON SOURCE
7
53
DRAIN+
56d
55d
IN−
ND2
54b
D2B
(2)
D2A
(4)
38
IN+
ND1
54a
D1A
(1)
D1B
(3)
50
SI
52
GT
DI
55c
55a
56a
56c
57a
57c
7
6
DRAIN+
TO COMMON SOURCE
TO COMMON SOURCE
DRAIN−

FIG.28

FIG.29


54
IN
THa
55
SAME DISTANCE AND GEOMETRICAL FEATURE FOR ALL TRANSISTORS
CNTb
CNTc
CNTa
GTa
GTb
n+
p+
n+
n+
n+
9
P-WELL
P-WELL
59
10
P-TYPE LAYER
Di
38
SIa
DIa
SIb
1~4
6,7